

## APPENDIX III

FISH AND WILDLIFE COORDINATION ACT REPORT



# United States Department of the Interior

FISH AND WILDLIFE SERVICE  
6620 Southpoint Drive South  
Suite 310  
Jacksonville, Florida 32216-0912

IN REPLY REFER TO:  
FWS/R4/ES-JAFL

JAN 29 1998

US Army Corps of Engineers  
Chief, Planning Division  
P.O. Box 4970  
Jacksonville, Florida 32232-0019

Dear Dr. Hall:

This responds to the January 26, 1998, public notice requesting comments on the Cockroach Bay Restoration project. The project involves filling two shell pits adjacent to Cockroach Bay with suitable material from one of three sites; Manatee Harbor Phase III, maintenance of Manatee Harbor or maintenance of Tampa Harbor near the project site. The purpose of the project is to create estuarine habitat along Tampa Bay. The local sponsor is the Southwest Florida Water Management District.

The Service supports this restoration effort. The Corps has requested the Service to prepare a Fish and Wildlife Coordination Act Report for the project. Enclosed is our preliminary cost estimate to prepare the report. We will provide a final cost estimate when the Corps submits a Scope of Work for the project.

We look forward to working the Corps on this restoration effort. Please contact Don Palmer in this office for further coordination.

Sincerely yours,

Michael M. Bentzien  
Assistant Field Supervisor

Enclosure:

cc  
Deb Manz  
Brian Pridgeon

**COCKROACH BAY RESTORATION PROJECT  
HILLSBOROUGH COUNTY**

**PRELIMINARY COST ESTIMATE**

1. Conduct field trips to the borrow and restoration sites.  
2 Biologists: 2 days @ \$335/biologist day.....\$1,340.00
2. Literature Search.  
1 Biologist: 3 days @ \$335/biologist day.....\$1,005.00
3. Prepare draft and final CAR.  
1 Biologist: 5 days @ \$335/biologist day.....\$1,675.00
4. Vehicle and boat: 2 days @ 60/day.....\$120.00
5. SUBTOTAL.....\$4,140.00
6. FWS Overhead (%38)(applies to employee  
days only).....\$1,528.00
7. TOTAL COST.....\$5,448.00
8. ROUNDED COST.....\$5,500.00



# United States Department of the Interior

## FISH AND WILDLIFE SERVICE

6620 Southpoint Drive South  
Suite 310  
Jacksonville, Florida 32216-0912

IN REPLY REFER TO:  
FWS/R4/ES-JAFL

JUN - 4 1998

Elmar Kurzbach, Acting Chief  
Environmental Branch  
U.S. Army Corps of Engineers  
400 West Bay Street  
P.O. Box 4970  
Jacksonville, Florida 32232

FWS Log Number: 98-326B (Tampa)

Dear Mr. Kurzbach:

The U.S. Fish and Wildlife Service has reviewed information related to the Cockroach Bay Beneficial Use project, currently under development by the U.S. Army Corps of Engineers. Pursuant to Section 204 of the Water Resources Development Act of 1992, the Corps is proposing to beneficially use dredged material to enhance wildlife habitat at the Cockroach Bay Aquatic Preserve, in Hillsborough County, Florida.

The enclosed draft report documents the fish and wildlife resources of the proposed project area and the anticipated effects of the project on those resources, and recommends potential mitigative measures. It has been prepared pursuant to a Fiscal-Year 1998 scope-of-work agreement between the Service and the Corps, and is provided in accordance with Section 2(b) of the Fish and Wildlife Coordination Act.

Please review the draft report and provide any comments to this office. A final report will be submitted to the Corps within 30 days of our receipt of your comments on this draft. Questions regarding the draft report should be directed to Bryan Pridgeon at (813) 570-5398, extension 13.

Sincerely,

Michael M. Bentzien  
Assistant Field Supervisor

Enclosure

cc: w/copy

Tom Olds

David Dale, NMFS, St. Petersburg



# United States Department of the Interior

## FISH AND WILDLIFE SERVICE

6620 Southpoint Drive South

Suite 310

Jacksonville, Florida 32216-0912

IN REPLY REFER TO:  
FWS/R4/ES-JAFL

NOV 03 1998

Mr. George M. Strain  
Acting Chief, Planning Division  
US Army Corps of Engineers  
P.O. Box 4970  
Jacksonville, Florida 32232-0019

ATTN: Mr. Bill Fonferek

Dear Mr. Strain:

In accordance with an FY 1998 funding agreement with the U.S. Army Corps of Engineers' Jacksonville District, the U.S. Fish and Wildlife Service (Service) is submitting the enclosed final Fish and Wildlife Coordination Act Section 2(b) Report with reference to the Cockroach Bay Beneficial Use project

If you have a question about this report, please contact either Don Palmer at (904) 232-2580, ext. 115 or Bryan Pridgeon at (727) 570-5398, ext. 13.

Sincerely,

*Michael M. Bentzen*

for David L. Hankla  
Field Supervisor

Enclosure

**COCKROACH BAY BENEFICIAL USE PROJECT**

**U.S. Fish and Wildlife Service  
Fish and Wildlife Coordination Act Report**

**FINAL REPORT**

**Submitted to:  
Department of the Army  
U.S. Army Corps of Engineers  
Jacksonville District  
Planning Division, Environmental Branch  
Jacksonville, Florida**

**Submitted by:  
Department of the Interior  
U.S. Fish and Wildlife Service  
Ecological Services Field Office  
Jacksonville Florida**

**October 1998**

## **1.0 INTRODUCTION**

The U.S. Fish and Wildlife Service has reviewed project plans and other information related to the Cockroach Bay Beneficial Use project, currently under development by the U.S. Army Corps of Engineers. Pursuant to Section 204 of the Water Resources Development Act of 1992, the Corps is proposing to beneficially use dredged material to enhance wildlife habitat at the Cockroach Bay Aquatic Preserve, in Hillsborough County, Florida. The Southwest Florida Water Management District (SFWMD) is the local sponsor for the proposed project.

This report documents the fish and wildlife resources of the proposed project area ; discusses the anticipated effects of the project on those resources; and, recommends potential mitigative measures. This report has been prepared pursuant to a Fiscal-Year 1998 scope-of-work agreement between the Service and the Corps, and is provided in accordance with Section 2(b) of the Fish and Wildlife Coordination Act.

Cockroach Bay is located on the eastern side of Tampa Bay in southwest Hillsborough County (Figure 1). The Cockroach Bay Aquatic Preserve comprises a portion of the Cockroach Bay watershed. The Preserve was purchased in 1991 through Hillsborough County's Environmental Lands Acquisition and Protection Program after the SFWMD committed to restoring the property through the Surface Water Improvement and Management (SWIM) program.

## **2.0 PROJECT DESCRIPTION**

The Cockroach Bay Aquatic Preserve (Figure 2) is a 651-acre tract located on the southeast shoreline of Tampa Bay between Cockroach Bay and Little Cockroach Bay, north of the Hillsborough/Manatee County line. About 150 acres of the site are intertidal habitats and 500 acres are active and abandoned agricultural lands and decommissioned mining lands (Leisey Shell pits) suitable for restoration. Through the SWIM program, restoration of the preserve has been divided into two phases, with each phase divided into numerous sub-phases. Phase I restoration activities are concentrated on 200 acres in the northern portion of the preserve and include wetland restoration in the 70-acre shell pits. The purpose of the Cockroach Bay Beneficial Use project is to improve biological productivity in the shell pits by providing greater habitat complexity, improve water quality by increasing circulation and mixing, and provide connections to the Tampa Bay estuarine system.

A range of wetland types will be developed in the pits by installing inlets and outlets that balance the relative effects of fresh and saltwater inflows and by establishing appropriate bottom elevations for establishment of emergent and submerged aquatic vegetation. Currently, freshwater is delivered to the pits from Hunter Lake immediately east of the Preserve through culverts. There is no surface saltwater connection to the pits under normal climatic and tidal conditions. The culverts between the pits and Hunter Lake will be replaced with new structures of appropriate size and elevation. Water surface elevations decline from Hunter Lake to the smaller, southern shell pit and from the smaller to the larger pit which will allow a positive water



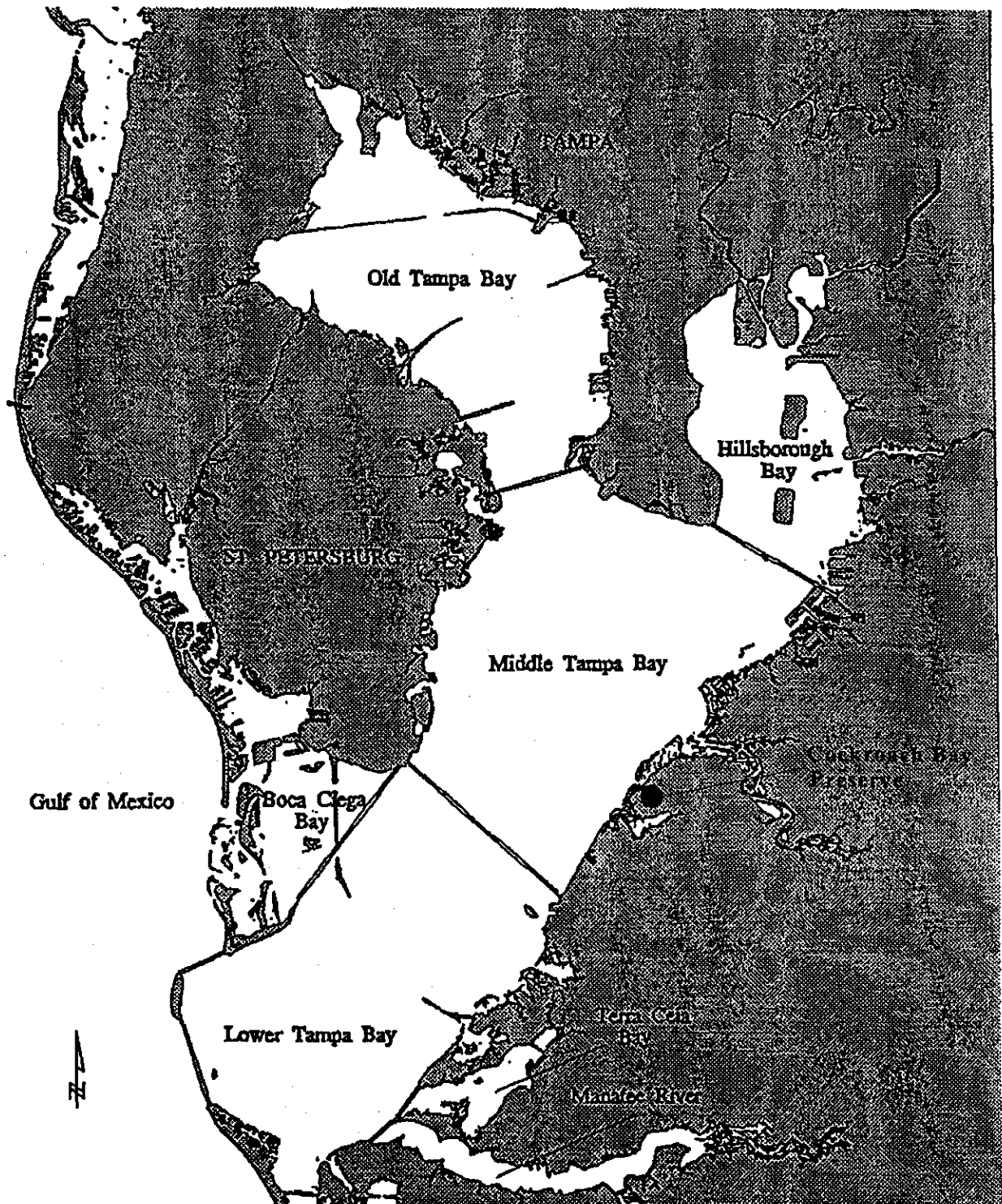


Figure 1. Location map of Cockroach Bay Aquatic Preserve.

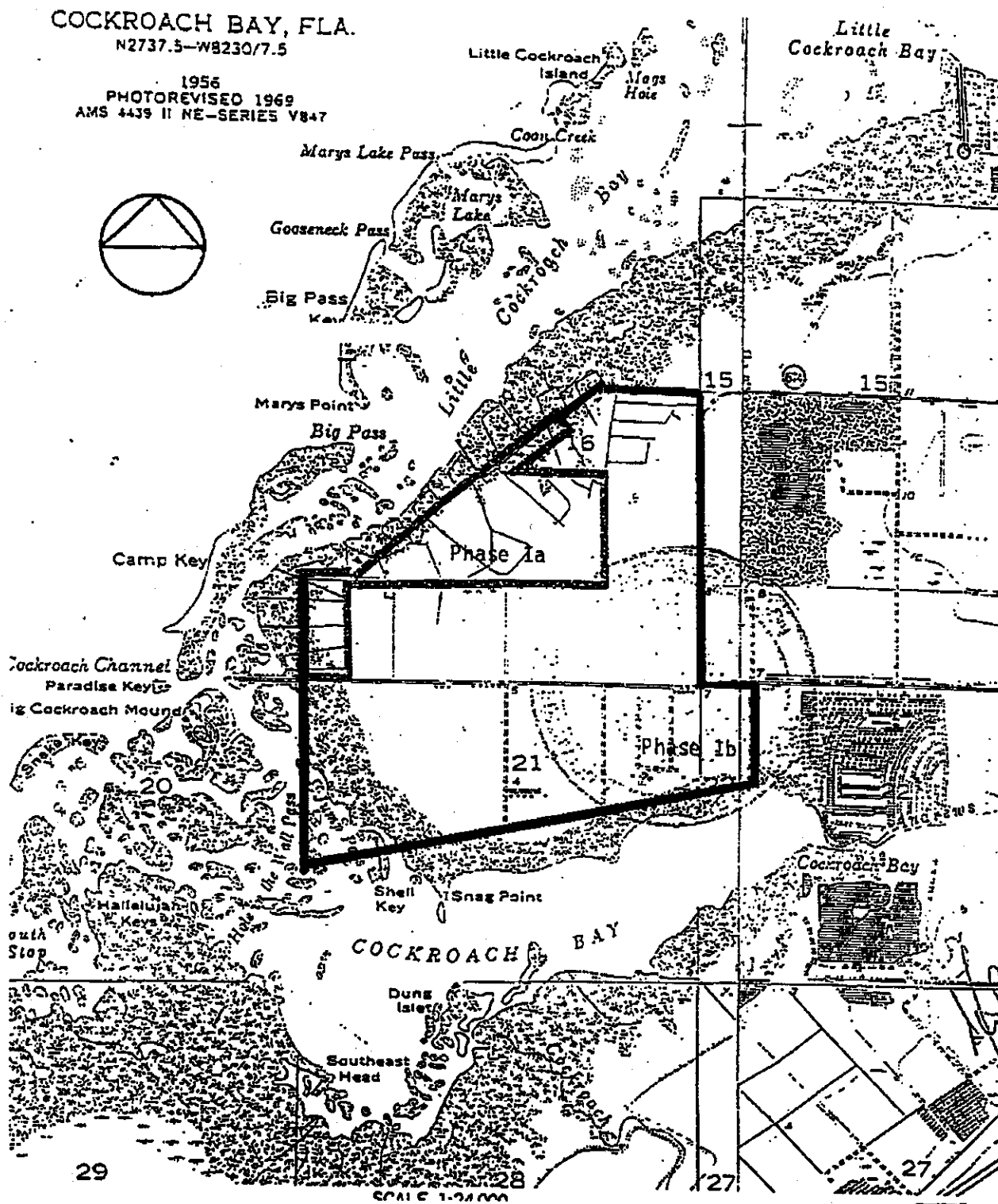


Figure 2. The Cockroach Bay Aquatic Preserve.

flow from fresh to saltwater. The southern pit will connect to the larger, northern pit and also to an intertidal creek to the southwest. The northern pit will tie into a previously created intertidal channel to the southwest and to an old mosquito ditch to the northwest that connects to Tampa Bay. Salinity will increase from the southeastern corner of the southern pit to the western end of the large pit, with fresh to oligohaline conditions increasing to mesohaline salinities.

Habitat restoration in the pits will require raising their bottom depths from the existing 9 to 15-foot-deep condition to prescribed depths for each of the desired habitat types, and providing suitable slopes for the establishment of vegetation. Emergent fresh and brackish marsh, intertidal marsh, submerged aquatic vegetation, and vegetated islands are proposed for establishment. Bottom depths will generally be 2 to 4 feet, with deeper channels separating islands from the shoreline and each other, and shallow shelves providing sites for planting and natural establishment of emergent and submerged aquatic vegetation. Habitat complexity will also be increased by creating an irregular shoreline rather than keeping the straight-edged shore that exists.

A source of fill material is required for bringing the shell pit bottoms up to the required elevations for establishing the desired aquatic and wetland habitats. Dredged material either from the Manatee Harbor Federal Navigation Project or from Tampa Harbor maintenance dredging (Figure 3) is proposed as a source of the approximately one million cubic yards of fill material needed. Dredged material from the Manatee Harbor Federal Navigation Project is normally disposed of at an upland disposal site located at Port Manatee and material from Tampa Harbor maintenance is placed in one of the two approved disposal islands (2D or 3D) in Hillsborough Bay, north of the present project site. Dredged material from the Manatee Harbor project would be delivered either from Phase 2 improvements or from widening at the junction of the Port Manatee Channel with the Cut-B Channel. Phase 2 by itself will not provide sufficient material for completing the beneficial use project, requiring supplemental material to be delivered from another site. Clamshell, hydraulic, or hopper dredges will be specified as appropriate for the dredge site. This will require different methods of initial material handling, but final delivery of the material into the shell pits will be via pipeline. Material will have to be transported from 2.5 to 4.5 miles from the proposed sites to the shell pits.

### **3.0 STUDY AREA DESCRIPTION**

The study area includes the Leisey Shell pits in the northern portion of the Cockroach Bay Aquatic Preserve. The northern portion of the preserve is roughly triangular, bounded on the east by Gulf City Road, on the south by Cockroach Bay Road, and by Little Cockroach Bay and Tampa Bay to the northwest. Potential alignments for delivery of the dredged material are proposed and these potential alignments are included in the study area. Only generalized descriptions will be given for the potential dredge material sources as the projects proposed to supply the material are federal projects which will require individual analysis and mitigation plan development.

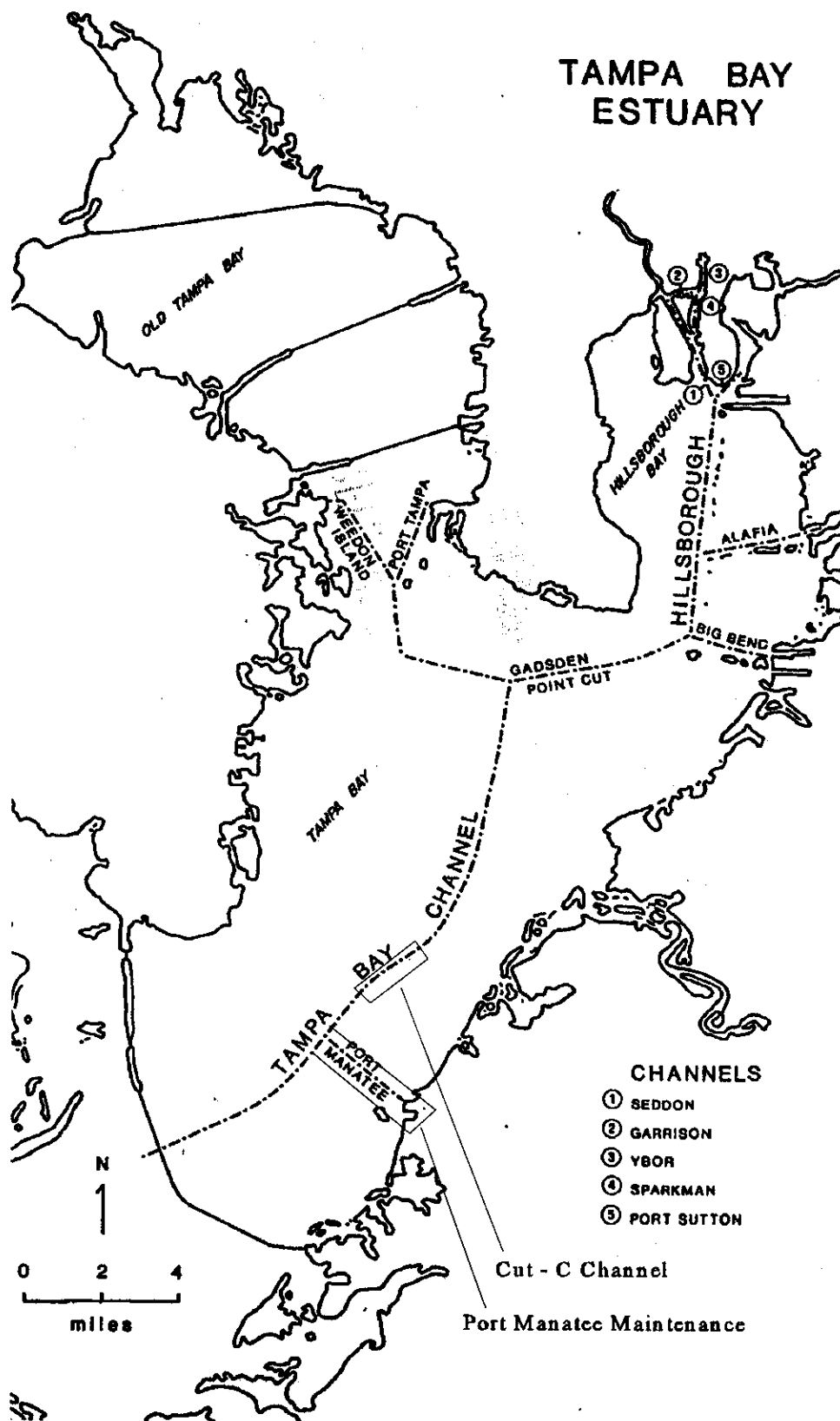


Figure 3. Possible Dredge Material Sites for Cockroach Bay

### 3.1 Leisey Shell Pits

The decommissioned Leisey Shell pits encompass about 70 acres in the northern portion of the Cockroach Bay Aquatic Preserve. Prior to mining both were upland sites. Presently they are ponds with vertical sides and bottom depths ranging from 9 to 15 feet. The northern pond is the larger of the two covering about 38 acres. Neither pond supports submerged aquatic vegetation and, with vertical shorelines, emergent vegetation is limited. The northern pond has scattered white mangroves (*Laguncularia racemosa*) at the waterline and the pond is surrounded by an almost continuous barrier of Brazilian pepper (*Schinus terebinthifolius*) interspersed with Australian pine (*Casuarina* sp.) and cabbage palm (*Sabal palmetto*). The southern pond has discontinuous patches of cattails (*Typha latifolia*) along the shoreline. The land around the southern pond has been disturbed recently and vegetation is limited to species seeded to provide rapid land cover. White sweet clover (*Melilotus alba*) is the dominant plant surrounding the pond.

Fish use of both ponds was monitored through the SWIM program from 1991 to 1994 for comparison with post project conditions. A list of the species collected is included as Appendix 1. Seven species of killifish (Cyprinodontidae) and two species of livebearers (Poeciliidae) were the only fishes collected. These two groups of fish are typical coastal marsh residents adapted to stressful conditions (Stickney, 1984; Myers and Ewell, 1990). The presence of only these two groups of fish, the absence of large predatory species, and the results of water quality sampling conducted by SWIM from October 1992 to March 1994 (SWIM, unpublished) indicates water quality in the ponds is poor or marginal for supporting aquatic biota.

Bird use of the pit areas was monitored monthly through the SWIM program from November 1991 through March 1996, with additional surveys conducted by the National Audubon Society. A list of the species surveyed is included as Appendix 2. Ninety-three species were confirmed using the pits. Of those, anhingas (*Anhinga anhinga*), double-crested cormorants (*Phalacrocorax auritus*), and cattle egrets (*Bubulcus ibis*) were noted as nesting. Four additional species were observed nesting on May 7, 1998; great egrets (*Casmerodius albus*), little blue herons (*Egretta caerulea*), tricolored herons (*Egretta tricolor*) and black-crowned night-herons (*Nycticorax nycticorax*).

Nesting is occurring on two small islands and a snag in the northern pond. The islands are vegetated with Brazilian pepper and cabbage palms, with most nesting taking place in the peppers. Conditions which appear to facilitate the use of the islands as nesting sites are their distance from the shore, the deep water between shore and the islands, and the presence of alligators (*Alligator mississippiensis*), which deter raccoons (*Procyon lotor*) from moving onto them.

### 3.2 Dredged Material Sources

Three sites have been proposed as sources of dredged material for the Cockroach Bay beneficial use project; Manatee Harbor and Tampa Harbor maintenance dredging, and Manatee Harbor Phase II improvement. The area of Manatee Harbor that would supply maintenance dredging material is located on the southeast shoreline of Tampa Bay at the town of Piney Point. It is approximately 35 acres, with a design depth of 40 feet. It has a 3-mile-long by 400-foot-wide entrance channel that connects to the Cut-B Channel, a segment of the main entrance channel into Tampa Bay. The portion of Tampa Harbor that would supply material for the beneficial use project is the Cut-C Channel (Bill Fonferek, U.S. Army Corps of Engineers, personal communication). The Cut-C Channel is a 1.5-mile-long segment of the main entrance channel into Tampa Bay, north of the Cut-B channel.

Habitats in Manatee Harbor differ markedly from those that existed prior to construction of Port facilities, as much of the dredging occurred in shallow waters and removed seagrass beds (Coastal Environmental, 1994). Existing conditions in the harbor are deep water habitats with no mapped hard bottom structure (Savercool and Lewis, 1994); although individuals who dive in the area have described the presence of hard bottom communities along the channel sides (Peter Clark, Tampa BayWatch, personal communication). Both Cut-C and about 2.5 miles of the Manatee Harbor Channel were constructed through naturally deep waters of Tampa Bay and did not remove any known seagrass or natural hard bottom habitats. The inner 0.5 mile of the Manatee Harbor Channel was constructed in less than six feet of water (MLLW) and did cut through seagrass beds. Taken in total, the harbor and channels modified habitats ranging from intertidal shoreline to natural deep areas of unconsolidated bottom by changing them into linear edged, deep water habitats with periodically disturbed substrates.

Construction of the Manatee Harbor Phase II improvement will require dredging over 12 acres of shallow water habitats, including over 3.3 acres of seagrass beds. The existing site is a mixture of unvegetated bottom and mixed seagrass beds. Seagrass beds will have to be resurveyed to determine if they accurately depict existing conditions as seagrasses have continued to expand in the immediate vicinity of Manatee Harbor (Robin Lewis, Lewis Environmental Services, personal communication).

Seagrass beds are recognized worldwide for their importance in a variety of functions that contribute to estuarine productivity (Darovec *et al.*, 1975; Daly *et al.*, 1989; Myers and Ewell, 1990). Four species of seagrass are found in Tampa Bay; shoal grass (*Halodule wrightii*), turtle grass (*Thalassia testudinum*), manatee grass (*Syringodium filiforme*) and star grass (*Halophila engelmannii*). Widgeon grass (*Ruppia maritima*) is another submerged aquatic grass in Tampa Bay that may be found growing in mixed beds with true seagrasses and is often included in seagrass definitions. In addition to providing plant material which serves as a food base in the complex estuarine food web, they reduce turbidity by preventing sediment resuspension, and provide habitat for many benthic and nektonic species. Restoring lost seagrass beds and protecting remaining seagrasses are priorities of the U.S. Fish and Wildlife Service and of the Tampa Bay Estuary Program (Tampa Bay National Estuary Program, 1996).

Using dredged material as a source of fill for habitat creation raises the question of potential chemical contamination of that material. A summary of chemical contaminants in Tampa Bay was published by the Tampa Bay National Estuary Program (Frithsen *et al.*, 1995). None of the analyses reported included samples from Port Manatee; however, numerous sites were sampled in upper McKay Bay, Ybor Channel, and Bayboro Harbor, all of which are either port locations or adjacent to ports. That report and another by Carr and others (Carr *et al.*, 1996) indicate the potential for chemical contamination and sediment toxicity of Tampa Bay shipping channels and harbors. Dredged materials will have to be tested for chemical contaminants and toxicity and only environmentally safe materials should be used as fill materials for the beneficial use project.

### 3.3 Dredged Material Delivery Alignments

Dredged material will be delivered to the Cockroach Bay Aquatic Preserve from the dredging projects by pipeline. The pipeline may either go ashore at Port Manatee and then travel over land to the preserve or come across the bay to the preserve. If the pipeline first goes ashore at Port Manatee, numerous existing rights-of-way (roadways and railways) are available which offer possible pipeline alignments with no significant wildlife habitat value. Outside of the rights-of-way there are agricultural and pasture lands that can provide routes that bypass the numerous wetlands and ponds between Port Manatee and the preserve.

Delivering dredged material via pipeline across the bay to the preserve would require from 2.5 to 4.5 miles of pipeline, depending on the dredge project. Seagrass beds are almost continuous from Manatee Harbor to north of the Cockroach Bay channel, typically in water less than six feet deep. No hard bottom communities are present between Manatee Harbor and the Cockroach Bay channel, however, there is a mapped hard bottom community directly west of the preserve (27° 41' 58" N, 82° 31' 23" W) that is in approximately 4 feet of water and covers 41.4 acres. Hard bottom communities are among the rarest aquatic communities in Tampa Bay with only 850 acres mapped (Savercool and Lewis, 1994), although more are likely to exist. The hard and soft corals present at these sites are protected by Florida law and must be avoided.

### 3.4 Endangered and Threatened Species

Federally listed threatened and endangered species that may occur in the study area are listed by county in Table 1. It is the responsibility of the Corps to determine if its project may affect listed species. The Corps should initiate formal Section 7 consultation pursuant to the requirements of the Endangered Species Act of 1973, as amended, if such a determination is made.

Table 1. Endangered and Threatened Species by County That May Occur in the Study Area

Hillsborough County		
Common Name	Scientific Name	Status
West Indian Manatee	<i>Trichechus manatus latirostris</i>	E/CH
Bald Eagle	<i>Haliaeetus leucocephalus</i>	T
Piping Plover	<i>Charadrius melodus</i>	E
Florida Scrub-jay	<i>Aphelocoma coerulescens</i>	T
Wood Stork	<i>Mycteria americana</i>	E
Red-cockaded Woodpecker	<i>Picoides borealis</i>	E
Eastern Indigo Snake	<i>Drymarchon corais couperi</i>	T
Green Sea Turtle	<i>Chelonia mydas</i>	E
Leatherback Turtle	<i>Dermochelys coriacea</i>	E
Loggerhead Sea Turtle	<i>Caretta caretta</i>	T
Gulf Sturgeon	<i>Acipenser oxyrhynchus desotoi</i>	T
Florida Golden Aster	<i>Chrysopsis(=Heterotheca) floridana</i>	E
Manatee County		
Florida Black Bear	<i>Ursus americanus floridanus</i>	C
West Indian Manatee	<i>Trichechus manatus latirostris</i>	E/CH
Audubon's Crested Caracara	<i>Polyborus plancu audubonii</i>	T
Bald Eagle	<i>Haliaeetus leucocephalus</i>	T
Piping Plover	<i>Charadrius melodus</i>	E
Florida Scrub-jay	<i>Aphelocoma coerulescens</i>	T
Wood Stork	<i>Mycteria americana</i>	E
Red-cockaded Woodpecker	<i>Picoides borealis</i>	E
Eastern Indigo Snake	<i>Drymarchon corais couperi</i>	T
Green Sea Turtle	<i>Chelonia mydas</i>	E
Leatherback Turtle	<i>Dermochelys coriacea</i>	E
Loggerhead Sea Turtle	<i>Caretta caretta</i>	T
Gulf Sturgeon	<i>Acipenser oxyrhynchus desotoi</i>	T



#### 4.0 DISCUSSION

Establishing a variety of aquatic and wetland habitats in the Leisey Shell pits has been included in the concept plan for the Cockroach Bay Aquatic Preserve from its inception. Existing water quality in the pits is marginal, aquatic habitat diversity is limited, submerged aquatic vegetation is non-existent, emergent wetland vegetation is sparse, and hydrological connections to Tampa Bay are not available. Importing fill material to create depths suitable for submerged aquatic vegetation growth, constructing shallow shelves for intertidal and supra-tidal vegetation, adding new islands, planting appropriate vegetation, and providing tidal connections will address the goals of the Preserve and the Tampa Bay Comprehensive Conservation and Management Plan (Tampa Bay National Estuary Program, 1996). Using dredged material for this project is a beneficial use, but it must be accomplished without lasting negative impacts along the pipeline routes from the delivery of the dredged material.

Negative environmental impacts can be avoided or minimized by careful selection of pipeline routes and periodic pipeline monitoring during its operation. Port Manatee Phase 2 improvement dredging is adjacent to the Port's shore-side facilities. If material from this project is used, the pipeline can be aligned through the industrial site to the Port's upland disposal site. From there it can follow the County Line Road right-of-way to the CSX railroad right-of-way adjacent to Highway 41. It can then stay in the CSX railroad right-of-way north to a private road along the west side of a nursery, at Sun City. It can follow that road north to Cockroach Bay Road, where it would turn west to the preserve. At the intersection of Cockroach Bay Road and Gulf City Road it can turn north along Gulf City Road to the east-west road on the preserve that separates the two shell pits. Following that alignment will place the pipeline in maintained right-of-ways for its entire length, resulting in minimal adverse impacts to fish and wildlife resources.

If dredged material is used from widening the Port Manatee Channel at its intersection with the Cut-B Channel and the decision is made to come onto land at Port Manatee, the pipeline can be aligned within the Port Manatee Channel. This will prevent damage to the adjacent seagrass beds. The pipeline alignment would have to be surveyed for corals and other hard bottom communities. If found they would have to be avoided. Once on land it could follow the alignment described above.

Delivering dredged material across the Bay from any of the proposed projects will require the pipeline to cross existing seagrass beds. Placing the pipeline in water deeper than the six foot contour until it reaches the Cockroach Bay Channel will avoid most of the seagrass areas. The pipeline can then be placed inside the Cockroach Bay Channel. Between channel markers 3 and 5 manatee grass (*Syringodium filiforme*) extends about one-half way across the channel from the north side. The pipeline should be placed in the southern section of the channel through that reach. The remainder of the channel is clear of seagrasses. From the channel the pipeline can come ashore at the end of Cockroach Bay Road. From there, it can follow the Cockroach Bay Road right-of-way to its intersection with Gulf City Road, where it would turn north as in the previous alignment description. A ditch parallels the Cockroach Bay Road on its north side. For

about 0.5 mile from the Bay it is mangrove lined. From there to its intersection with Gulf City Road it is filled with palustrine emergent vegetation, primarily cattails. Placing the pipeline on the maintained rights-of-way for Cockroach Bay Road and Gulf City Road will prevent negative impacts to those habitats.

Seagrasses, mangroves and palustrine emergent vegetation are the habitats that could be impacted by placing the pipeline along this alignment. There are seagrasses in the Cockroach Bay Channel and any impacts to them would have to be mitigated by replanting at a 3:1 ratio. If a suitable on-site location can not be found, a sandy depositional area near Piney Point Creek may offer additional area.

Work activities must be prevented in the northern pond from March 15 through July 15 to avoid disturbing bird nesting activities.

## **5.0 SUMMARY**

Delivering dredged material to the Leisey Shell Pits at the Cockroach Bay Aquatic Preserve will be a beneficial project for Tampa Bay. It will improve existing environmental conditions at the project site and prolong the useful life of the upland disposal site at Port Manatee. If proper pipeline alignments are selected and the pipeline is monitored to prevent accidental spills during project construction, negative environmental impacts associated with the delivery of the material can be minimized. This project should be recognized as an opportunity for beneficially using dredged material that will otherwise be disposed of in standard disposal sites that offer only incidental fish and wildlife habitat. In order to minimize project-related adverse impacts to fish and wildlife resources, and thereby maximize project benefits, the Service provides the following recommendations:

- o survey proposed dredging areas and pipeline alignments for seagrass beds and hard bottom communities;
- o avoid dredging-related adverse impacts to seagrass beds and hard bottom communities;
- o avoid impacts to seagrass beds caused by pipeline placement to the extent possible through careful selection of pipeline alignments;
- o develop plans to compensate for any unavoidable adverse impacts to seagrass beds resulting from pipeline placement by replanting at a 3:1 ratio;
- o avoid adverse impacts to terrestrial habitat by following existing right-of-way alignments, as described above;
- o monitor pipeline alignments during project construction to prevent accidental spills;
- o test dredged materials for chemical contaminants and toxicity and use only clean sediments for the beneficial use project;

- o review pipeline line alignments and dredging areas for possible effects to federally listed species, and initiate formal section 7 consultation pursuant to the requirements of the Endangered Species Act of 1973, as amended, if such potential effects are identified; and,
- o avoid any work activities in the northern pond between March 15 and July 15 to prevent disturbance of nesting birds.

## 6.0 REFERENCES

- Carr, S., E. Long, H. Windom, D. Chapman, G. Thursby, G. Sloan, and D. Wolfe. 1996. Sediment quality assessment studies of Tampa Bay, Florida. *Environmental Toxicology and Chemistry* 15:1218-1231.
- Coastal Environmental. 1994. Physical impacts to Tampa Bay. Tampa Bay National Estuary Program, Technical Publication #03-93. St. Petersburg, Florida.
- Davorec, J., Jr., J. Carlton, T. Pulver, M. Moffler, G. Smith, W. Whitfield, Jr., C. Willis, K. Steidinger, and E. Joyce, Jr. 1975. Techniques for coastal restoration and fishery enhancement in Florida. Florida Marine Research Publications, Number 15. St. Petersburg, Florida.
- Daly, J., Jr., C. Hall, M. Kemp, and A. Yanez-Arancibia. 1989. Estuarine ecology. John Wiley and Sons. New York, New York.
- Frithsen, J., S. Schreiner, D. Strebel, R. Laljani, D. Logan, and H. Zarbock. 1995. Chemical contaminants in the Tampa Bay estuary: a summary of distributions and inputs. Tampa Bay National Estuary Program, Technical Publication #01-95. St. Petersburg, Florida.
- Myers, R., and J. Ewell. 1990. Ecosystems of Florida. University of Central Florida Press. Orlando, Florida.
- Savercool, D., and R. Lewis III. 1994. Hard bottom mapping of Tampa Bay. Tampa Bay National Estuary Program, Technical Publication #07-94. St. Petersburg, Florida.
- Stickney, R. 1984. Estuarine ecology of the Southeastern United States and Gulf of Mexico. Texas A&M University Press. College Station, Texas.
- Tampa Bay National Estuary Program. 1996. Charting the course: the comprehensive conservation and management plan for Tampa Bay. Tampa Bay National Estuary Program. St. Petersburg, Florida.

## Appendix 1

### Fish Species Caught in Cockroach Bay Shell Pits

<b><u>SPECIES</u></b>	<b><u>COMMON NAME</u></b>	<b><u>FAMILY</u></b>
<i>Adinia xenica</i>	diamond killifish	Cyprinodontidae
<i>Cyprinodon variegatus</i>	sheepshead minnow	Cyprinodontidae
<i>Floridichthys carpio</i>	goldspotted killifish	Cyprinodontidae
<i>Fundulus confluentis</i>	marsh killifish	Cyprinodontidae
<i>Fundulus heteroclitus</i>	mummichog	Cyprinodontidae
<i>Fundulus grandis</i>	Gulf killifish	Cyprinodontidae
<i>Lucania parva</i>	rainwater killifish	Cyprinodontidae
<i>Gambusia holbrooki</i>	Eastern gambusia	Poeciliidae
<i>Poecilia latipinna</i>	sailfin molly	Poeciliidae

## **Appendix 2**

### **Birds Observed at the Cockroach Bay Shell Pits**

Pied-billed Grebe	Red-breasted Merganser	Black Tern
		Least Tern
White Pelican	Turkey Vulture	Royal Tern
Brown Pelican	Black Vulture	Caspian Tern
Double-crested Cormorant	Osprey	Black Skimmer
Anhinga	Bald Eagle	
	Northern Harrier	Rock Dove
Great Blue Heron	Broad-winged Hawk	Eurasian Collared Dove
Great Egret	Cooper's Hawk	Mourning Dove
Snowy Egret	Red-shouldered Hawk	Ground Dove
Little Blue Heron	Merlin	
Tricolor Heron	American Kestrel	Mangrove Cuckoo
Cattle Egret		
Green-backed Heron	Bobwhite	Common Nighthawk
Black-crowned Night Heron		
Yellow-crowned Night Heron	Clapper Rail	Belted Kingfisher
	Common Moorhen	
White Ibis	American Coot	Common Flicker
		Red-bellied Woodpecker
Wood Stork	Black-necked Stilt	Downy Woodpecker
	Greater Yellowlegs	Pileated Woodpecker
Green-winged Teal	Lesser Yellowlegs	
Mottled Duck	Willet	Gray Kingbird
Blue-Winged Teal		Eastern Phoebe
Northern Shoveler	Herring Gull	Great Crested Flycatcher
Redhead	Ring-billed Gull	
Lesser Scaup	Laughing Gull	Tree Swallow
Hooded Merganser	Forster's Tern	

Blue Jay	Cedar Waxwing	Cardinal
Fish Crow		Rufous-sided Towhee
	Starling	Lincoln's Sparrow
House Wren		Red-winged Blackbird
Carolina Wren	White-eyed Vireo	Boat-tailed Grackle
	Northern Parula	Common Grackle
Blue-gray Gnatcatcher	Orange-crowned Warbler	Brown-headed Cowbird
	Yellow Warbler	
American Robin	Yellow-rumped Warbler	
Mockingbird	Pine Warbler	
Gray Catbird	Palm Warbler	
Brown Thrasher		



Planning Division  
Environmental Branch

FEB 24 1989

Mr. David J. Hankla  
Field Supervisor  
U.S. Fish and Wildlife Service  
Suite 310  
6620 Southpoint Drive South  
Jacksonville, Florida 32216

Dear Mr. Hankla:

This is in reference to the Cockroach Bay Restoration Study currently being conducted by our office. Your office completed and submitted a Coordination Act Report to this office by letter dated November 3, 1998. Contained within that report was a list of threatened or endangered species that could be potentially affected by the project.

We have reviewed that list and during informal consultation with Mr. Brian Pridgeon of your Tampa Office have determined that the proposed restoration project and transportation of dredged material from the Manatee Harbor Phase II construction would not impact any species on that list; especially the Florida manatee which is known to inhabit the area. The potential contact with the manatee comes from laying and inspecting the pipeline from the dredging to the site through the seagrass beds via the recreational navigation channel. To insure that this contact is minimal, we plan to institute the standard manatee protection conditions.

We are asking for your concurrence in the above "No Effects" determination based on this condition.

If you have any questions, please contact Mr. Bill Fonferek at 904-232-2803.

Sincerely,



James C. Duck  
Chief, Planning Division

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Ponferek/CESAJ-PD-ER/2803/als *als 2-20-99*

*2/20/99*  
~~Bogger~~/CESAJ-PD-ER

Smith/CESAJ-PD-E

Strain/CESAJ-PD-A

Duck/CESAJ-PD

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Planning Division  
Environmental Branch

MAR 23 1999

Mr. David J. Hankla  
Field Supervisor  
U.S. Fish and Wildlife Service  
Suite 310  
6620 Southpoint Drive South  
Jacksonville, Florida 32216

Dear Mr. Hankla:

This is in reference to the Cockroach Bay Restoration Study currently being conducted by our office. Your office completed and submitted a Coordination Act Report to this office by letter dated November 3, 1998.

We are asking for your input under the Fish and Wildlife Coordination Act about the addition of another source of material from Manatee Harbor for the Cockroach Bay Restoration. As discussed with Brian Pridgeon of your office, there is dredged material currently residing in the Port's Dredged Material Management Area. We are considering truck hauling this material to the restoration site and placing it using heavy equipment.

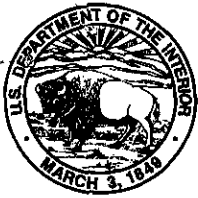
If you have any questions, please contact Mr. Bill Fonferek at 904-232-2803.

Sincerely,

James C. Duck  
Chief, Planning Division

Fonferek/CESAJ-PD-ER/2803/als  
Duggel/CESAJ-PD-ER  
Sm.../CESAJ-PD-E  
S.../CESAJ-PD-A  
Duck/CESAJ-PD

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# United States Department of the Interior

## FISH AND WILDLIFE SERVICE

6620 Southpoint Drive South

Suite 310

Jacksonville, Florida 32216-0912

IN REPLY REFER TO:  
FWS/R4/ES-JAFL

**APR 06 1999**

Mr. James C. Duck  
Chief, Planning Division  
Jacksonville District Corps of Engineers  
P.O. Box 4970  
Jacksonville, Florida 32232-0019

FWS Log Number: 98-326B (Tampa)

Dear Mr. Duck:

This is in response to your March 23, 1999 letter regarding a change of the dredged material source for the Cockroach Bay Restoration Project. We addressed fish and wildlife resource issues regarding this project in a Coordination Act Report for the Cockroach Bay Beneficial Use Project submitted to you on November 3, 1998. No changes are proposed for the project other than the source of the material to be used and changing the project's name from the Cockroach Bay Beneficial Use Project to the Cockroach Bay Restoration Project. The proposal is to use material already contained in Port Manatee's upland disposal site rather than material from the Port Manatee Navigation and Berth Improvement Project. It would be loaded into dump trucks at the existing disposal site and delivered to the Cockroach Bay Restoration Project over public roads.

Our concern with the use of the material already in the port's disposal site is the potential for contamination. Before the material is used it will need to be tested for chemical contaminants and toxicity and only environmentally safe materials should be used for the restoration project.

The use of environmentally safe material from the port's upland disposal site and transporting it to the restoration site over existing public roads should not produce natural resource concerns beyond those addressed in the Coordination Act Report for the Cockroach Bay Beneficial Use Project. The Service does not object to the use of environmentally safe materials from the alternative source.

If you need additional information regarding these comments please contact Bryan Pridgeon at (727) 570-5398, extension 13.

Sincerely,

*Michael M. Gentner*

for David L. Hankla  
Field Supervisor

cc: NMFS

Planning Division  
Environmental Branch

JUN 22 2000

Mr. David J. Hankla  
Field Supervisor  
U.S. Fish and Wildlife Service  
Suite 310  
6620 Southpoint Drive South  
Jacksonville, Florida 32216

Dear Mr. Hankla:

This is in reference to the Cockroach Bay Restoration Study currently being conducted by our office. Your office completed and submitted a Coordination Act Report to this office by letter dated November 3, 1998.

We are asking for an Amended Fish and Wildlife Coordination Act Report for additional sources of material for use in the Cockroach Bay Restoration Project as described in the enclosed Amended Scope of Work, Cost Estimate, and Government Order for Fish and Wildlife transfer of funds.

If you have any questions, please contact Mr. Bill Fonferek at 904-232-2803.

Sincerely,

James C. Duck  
Chief, Planning Division

*L* Fonferek/CESAJ-PD-ER/2803/*als* 6/21/00

*AK* Dugger/CESAJ-PD-ER

*AK* Smith/CESAJ-PD-E

*AK* Strain/CESAJ-PD-A

*AK* Rodriguez/CESAJ/DP-B

*AK* Duck/CESAJ-PD

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# United States Department of the Interior

## FISH AND WILDLIFE SERVICE

6620 Southpoint Drive South

Suite 310

Jacksonville, Florida 32216-0958

IN REPLY REFER TO:  
FWS/R4/ES-JAFL

October 30, 2000

James C. Duck  
Chief, Planning Division  
Jacksonville District Corps of Engineers  
P.O. Box 4970  
Jacksonville, Florida 32232-0019

Dear Mr. Duck:

This planning-aid letter is in response to your letter of June 22, 2000, requesting that alternatives related to the Cockroach Bay Beneficial Use Project be evaluated beyond those addressed in the Fish and Wildlife Coordination Act Report (CAR) submitted to the Corps in November 1998 and planning-aid letter of April 6, 1999, regarding this project. The CAR and letter described the proposed project, the project area, fish and wildlife resources in the project area, project impacts and made recommendations for minimizing project impacts. The alternatives that will be addressed in this planning-aid letter are alternative sources for the dredged material that would be used for the Cockroach Bay Beneficial Use Project. The alternative sources are disposal island CMDA-3D (3D), Cargill upland disposal sites A, B and C, Alafia River Navigation Channel maintenance dredging and the Alafia River Navigation Channel Expansion Project. The comments and recommendations contained in this letter are additions to those offered in the above referenced CAR and planning-aid letter and do not supercede them.

### **Description of the Study Area**

#### **Dredged Material Sources**

The study area of consideration lies between Cargill Disposal Site C and the Cockroach Bay Channel. All of the proposed dredged material sources are near the mouth of the Alafia River (Figure 1) which is about 12.7 miles north of the Cockroach Bay Channel. Disposal island 3D is a large (approximately 450 acres) man-made island in Hillsborough Bay that was constructed as part of the Tampa Harbor deepening project conducted between 1978 and 1982. It is located about 0.5 miles south of the Alafia River Navigation Channel and 0.25 miles east of Cut C Channel. It receives dredged material from Federal and Port of Tampa dredging projects.

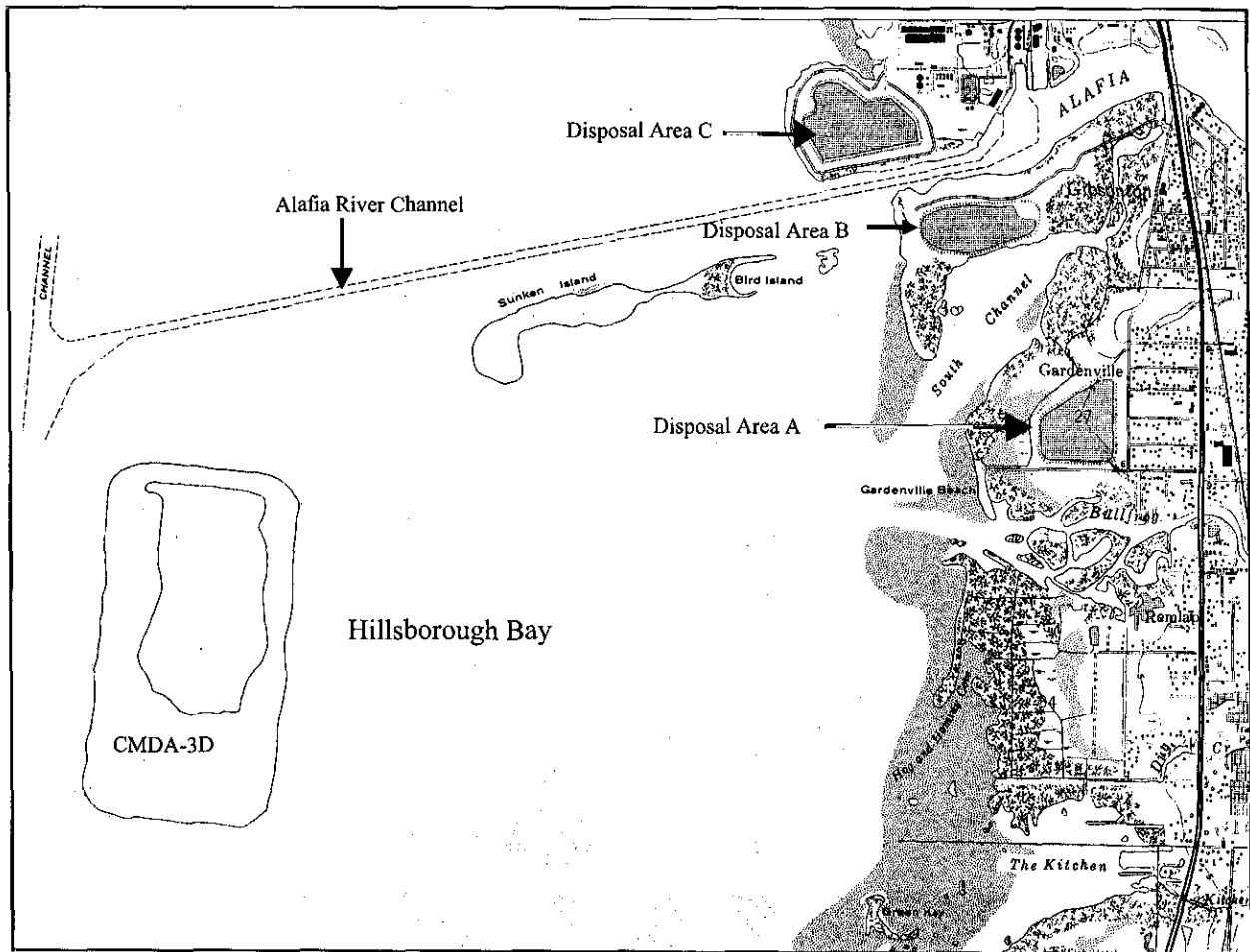


Figure 1. Alternative dredged material disposal sites proposed as sources for material for the Cockroach Bay beneficial use project.

The primary fish and wildlife resource issue related to removing material from the island is protecting the colonial waterbird nesting that occurs there. In 2000 approximately 8,000 pairs of birds, comprised of 7 species nested on the island. Laughing Gulls (*Larus atricilla*) were the most common, with Caspian, Royal, Sandwich and Gull-billed Terns (*Sterna caspia*, *S. maxima*, *S. sandvicensis* and *S. nilotica*, respectively) and two state species of special concern, American Oystercatchers (*Haematopus palliatus*) and Black Skimmers (*Rhynchops niger*) also present (Rich Paul, National Audubon Society, personal communication).

The importance of the nesting colonies on Tampa Bay disposal islands, including 3D, has been recognized and a "Migratory Bird Protection Policy" (USACE 1994) has been developed. It sets out the actions that need to be undertaken to protect nesting birds during dredged material placement on the islands. Although the policy was developed for dredging operations that would place dredged material onto disposal islands, it is also applicable for projects removing material from disposal islands. Implementing the conditions of the policy during this project will be necessary to provide protection for nesting birds.



Cargill's upland disposal sites are contained sites on the east side of Tampa Bay near the Alafia River (Figure 1). Site A, the furthest south, about 0.9 miles south of the Alafia River, is approximately 31 acres. Site B is immediately south of the river and is about 29 acres. Site C is north of the river, adjacent to the Cargill facility and covers about 41 acres. The interior of Site A is densely vegetated with exotic invasive vegetation, primarily Brazilian pepper (*Schinus terebinthifolius*). Sites B and C are primarily open water sites. There is intermittent colonial waterbird nesting on Site C. It should be monitored for nesting activity in accordance with the guidelines of the "Migratory Bird Protection Policy" and the protective actions of the policy should be implemented when nesting activity is occurring.

Fish and wildlife resources of the Alafia River Navigation Channel and issues related to them were detailed in the Fish Wildlife Coordination Act Report for the Alafia River Navigation Channel Feasibility Study submitted to the Corps in December 1998 and planning-aid letters for the same project submitted on September 22 and October 21, 1999. The primary resource issues identified were the impacts to benthic organisms, mangrove habitats, coastal freshwater wetlands and environmental contaminants. With regard to using dredged material from the Alafia River Navigation Channel for the Cockroach Bay beneficial use project, the potential for sediment contamination is the Service's greatest concern. Before Alafia River dredged material is used for this project it will have to be tested for chemical contaminants and toxicity and only environmentally safe material should be used as fill for the beneficial use project.

#### Dredged Material Delivery Alignments

Dredged material could be delivered to the Cockroach Bay Aquatic Preserve either via the bay or by an overland route. Delivering dredged material by pipeline across the bay will require from 11.5 to 14 miles of pipeline to reach the Cockroach Bay Channel, depending on the material source. A pipeline alignment within the Cockroach Bay Channel and inland from the channel to the beneficial use site that would minimize natural resource impacts was detailed in the "Fish and Wildlife Coordination Act Report for the Cockroach Bay Beneficial Use Project" submitted to the Corps on June 4, 1998. Delivery pipelines laid in the bay between the Alafia River Channel and the Cockroach Bay Channel would need to avoid two aquatic community types that are priorities for restoration and protection by the Fish and Wildlife Service; seagrasses and hard bottom. From the Alafia River to the south end of Apollo Beach seagrass beds are in limited near shore patches. From Apollo Beach to the Cockroach Bay Channel seagrass beds are largely continuous in water less than 6 feet deep. Two hard bottom communities have been mapped between the Alafia River and the Cockroach Bay Channel. The northern most of the two is south of the mouth of the Little Manatee River (27°43'00"N, 82°30'00"W) and covers about 59.3 acres. The more southern site is north of the Cockroach Bay Channel in about 4 feet of water and covers approximately 41.4 acres (27°41'58"N, 82°31'23"W) (Savercool and Lewis 1994).

Dredged material from the Cargill upland disposal sites would probably be delivered to the Cockroach Bay beneficial use site by truck. The trip would be from 17 to 19 miles each way, depending on the disposal site and route taken. There are existing access roads to Cargill sites B and C from public transportation corridors, but a new access road would have to be constructed into site A. The eastern side of disposal site A is about 200 feet from and parallel to Lulu Street in Gibsonton. Constructing an access road from Lulu Street near its intersection with Cliff Street

to the disposal site would require the removal of minimal native vegetation and would be the Service's preferred area for an access road. There are existing public roads for delivery of the dredged material to the beneficial use site.

## **Discussion**

Dredged material from any of the proposed alternative sources may be appropriate for use in the Cockroach Bay beneficial use project. Reusing material from 3D is particularly appealing because it offers the double advantage of supplying material for a beneficial use project and increasing the capacity of the disposal site. Increasing the capacity of 3D and other existing dredged material disposal sites in upper Tampa Bay is critically important for the long term management of dredged material in Tampa Bay. Between now and 2025 the capacity of 3D needs to be increased by 10,400,000 cubic yards to accept dredged material from known maintenance dredging projects (USACE 2000). Mining the Cargill upland disposal sites would not be as beneficial because the sites are not as large and they are used only by a single user. Thus, their increased capacity would not benefit the multiple projects that dispose dredged material into 3D. Using environmentally acceptable material from the Alafia River projects would preclude its being placed in existing dredged material disposal sites, thus reserving their capacity for future projects.

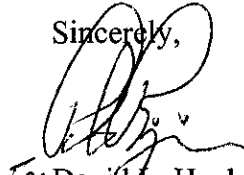
Fish and wildlife resources would have to be protected while materials were being mined or dredged. Protecting nesting waterbirds is the wildlife resource of greatest concern at the existing disposal sites. The procedures of the "Migratory Bird Protection Policy" (USACE 1994) must be implemented during operations at those locations to provide protection for the birds. An additional concern regarding the use of Cargill Site A is the need to build an access road to the site. Site A parallels Lulu Street for about 1,500 feet and there are stretches where little native vegetation exists between the disposal site and the street. Constructing the access road within an area dominated by exotic vegetation will minimize fish and wildlife resource impacts and mitigation requirements associated with those impacts. From Lulu Street there are several streets that connect to Highway 41 which can be taken south to Cockroach Bay Road for access to the beneficial use site.

Dredged material could be delivered to the Cockroach Bay beneficial use site by pipeline with minimal short or long term impacts to fish and wildlife resources by carefully selecting pipeline alignments. Unvegetated bay bottom is present in the Alafia River and adjacent to 3D where pipeline placement would be benign. Although seagrass and mapped hard bottom habitats are present between the Alafia River and the Cockroach Bay Channel they are confined to shallow waters. Laying the pipeline in water depths more than 8 feet deep (MLLW) from the dredged material source sites to the approximate position 27° 41.86' N, 82° 32.37' W, where the line could then be turned into the Cockroach Bay Channel, would prevent direct impacts to seagrasses and known hard bottom communities. Direct impacts to sensitive bottom communities could still occur from accidental discharges of dredged materials which could increase turbidity and off-site sedimentation. The risk of such impacts can be minimized by having the pipeline monitored regularly, with a maximum of six hours between observations, with the pipeline monitor required to stop the discharge operation if there is a leak or break in the discharge line.

In summary, the Service supports constructing beneficial use projects with uncontaminated dredged material and any of the proposed sources may be appropriate sources for the Cockroach Bay project. Dredged material for the project is proposed to come from sources that have natural resource values that must be protected and the material must be delivered to the project from several miles distance. Implementing the "Migratory Bird Protection Policy", building access roads at appropriate locations, and carefully selecting pipeline alignments are actions that should be taken to eliminate or minimize negative environmental impacts associated with using these proposed material sites and, thus, maximize the benefits of the beneficial use project.

If you have any questions regarding the comments and recommendations contained in this planning aid letter contact Bryan Pridgeon at 727-570-5398, extension 13.

Sincerely,



David L. Hankla  
Field Supervisor

cc: David Dale, NMFS

#### References

Savercool, D. and R. Lewis III. 1994. Hardbottom mapping of Tampa Bay. Tampa Bay National Estuary Program, Technical Publication #07-94. St. Petersburg, Florida.

U.S. Army Corps of Engineers. 1994. Final migratory bird protection policy. U.S. Army Corps of Engineers, Jacksonville District, Jacksonville, Florida.

U.S. Army Corps of Engineers. 2000. Dredged material management strategy, Tampa Bay, Florida. U.S. Army Corps of Engineers, Jacksonville District, Jacksonville, Florida.